

Plasma and Fusion Undergraduate Research Opportunities (PFURO)

Princeton Plasma Physics Laboratory

Participants will conduct research this summer with plasma/fusion scientists from undergraduate institutions throughout the US (universities, colleges, and other educational research institutions).

Summer 2023: 10 weeks (June through August)

Applications open Oct 18, 2022 through March 10, 2023

Benefits:

- 10 weeks of summer research under the guidance of faculty and staff at US undergraduate institutions (universities, colleges, and other educational research institutions).
- Intro to Plasma and Fusion course hosted by PPPL
- Workforce development seminars and workshops.
- \$650 weekly stipend for the duration of the 10 week, 40hr/week research experience.
- Support to present research at a national topical conference.

Eligibility:

- Applicants must be currently enrolled as a full-time undergraduate student at an accredited US institution **OR** a recent graduate
- Must be 18 years or older at the time the internship begins.
- Must be eligible to work in the United States. (No visa assistance is provided.)
- Women and underrepresented minorities in plasma physics and fusion energy research are especially encouraged to apply.

Research Topics

- **Magnetic Fusion Energy:** Research focusing on the scientific challenges of making magnetic fusion energy a reality. These are topics in plasma confinement, RF heating, stellarator design, turbulent transport, high-temperature superconductors, and many others.
- **Fusion Materials and Technology:** Research focusing on the materials required to build fusion reactors and heat and tritium extraction. Topics include: Neutron effects on materials, plasma-materials interaction, blanket design, etc.
- **General Plasma Science:** More than 99% of the visible universe is plasma and they cover wide scale and temperature ranges. Topics include: Astrophysical plasmas, space plasmas, complex (dusty) plasmas, low-temperature plasmas, and many others.
- **High Energy Density Plasmas:** Hot, dense plasmas have unique properties in the realm of plasmas and their physics can give insights into extreme astrophysical phenomena such as exploding supernovae as well as lead to advances in accelerator physics, inertial confinement fusion, among other fields of research.

PFURO is sponsored by the Office of Fusion Energy Sciences at the Office of Science of the US Department of Energy, and the program is administered and managed by the Princeton Plasma Physics Laboratory and by the US Fusion Outreach Team.

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For more information on PFURO, please visit us at:

www.pppl.gov/pfuro

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